Project Report
Alaska Public Broadcasting, Inc.
Project Number 0117-DC-2004-15
April 1, 2009 – June 30, 2009

Alaska Rural Communications Service & Satellite Interconnection Revitalization

Project Summary: the ARCS revitalization project continues to make measurable progress. The project objective is the restoration of television broadcast programming to bush and rural communities by either repairing or replacing non operational equipment. This includes transmitters, antennas, satellite dishes, receiver/decoders, or towers.

Restoration of service: reliable ARCS service has been restored to more than 100 bush and rural communities where it had been completely off or seriously degraded.

Acquisition and refurbishment of equipment: refurbishing original transmitters saves approximately $5000 per unit compared to purchase of new systems. We continue to cycle rebuilt units to the villages and bring the failed units back from those communities and send them off to the factory for rebuilding. We have rights to use some new receivers to decrease our response time when existing units fail in the villages.

Provision of timely customer support: with a system that includes more than 200 sites, technical staff is kept busy each day with myriad general service and trouble calls involving unique factors and circumstances to analyze and address. The range of work can run from a simple reset to a complex set of problems which have resulted in the complete failure of a village's local service.

Establishment of community partnerships: the majority of the service restoration work is attained through partnership, technical staff working with dedicated community volunteers. Some sites and projects require staff travel in order to deal with the extraordinary circumstances.

Phases two and three are complete: modern technology based systems have been designed and implemented allowing for consolidation of a delivery system and central point of control for multiple content streams. A new method of controlling the ARCS program schedule is fully operational, allowing for remote operation. Equipment purchase and installation of the new State of Alaska satellite uplink system became operational on January 25, 2007.

The overall project is on schedule and within budget. We have not encountered any serious unanticipated problems or set backs requiring significant changes to the work scope. Restoration or upgrading of service presents a different challenge in each community. In partnership with our community liaisons, we continue to identify and solve these problems.

Activity detail: April 1, 2009 – June 30, 2009

- ARCS Technical Support handled 137 calls for assistance from 33 different bush and rural communities serviced by ARCS. As email becomes more readily available in the villages, we are seeing around two dozen email contacts per month that, in the past, would have been phone calls.
- In Chevak, with the ARCS channel available to cable TV viewers, the over-the-air system had fallen on harder times. A change in personnel brought renewed energy and

an opportunity for service. After receiving a request for help, the replacement equipment including satellite receiver, LNB, new cables, and a refurbished transmitter were sent out to the community. With some guidance from our end, the folks at the City office installed the gear and restored service. An uncertainty with any system that has been out of service is the condition of the satellite dish. It sits without respite in some of the most severe and corrosive weather conditions on earth, and it is always reassuring to find that, once properly connected and aligned, these dishes are still capable of optimum performance, even after twenty years in the field. Such was the case in Chevak.

- In Chignik Lake we were not so lucky. After replacing several of the components and cables we are now convinced the satellite dish must be re-aimed. That will not be easy, but with a few local volunteers working together, it is doable.
- Many of the ARCS sites share space with other services in the village, where suitable space for electronics is at a premium. Klawock temporarily lost service for some unknown reason, but a local volunteer found that if he moved some computer cables around in the shared space, service resumed. At our direction he was able to align the transmitter levels back to optimum, further improving their locally delivered signal. While that turned out to be an easy fix it could have been much more confusing and frustrating were it not for an intrepid village volunteer.
- In Togiak, after successfully moving the satellite dish to a new location (not an easy feat) they put all of the ARCS equipment into its new home, only to find they were unable to get any satellite signal. It turned out they had aimed their dish at the satellite adjacent to ours. With some extra tweaking they got the dish properly aligned and service was restored.
- In April we received a request from the Kenai Peninsula Borough School District for permission to shut down the ARCS system at Moose Pass. They found that they had been paying the electric bill for the transmitter and wanted to cut that out of their budget. Since no one else could be found to pay the bill, service was terminated. It is ironic that a remote service that has been kept in excellent working condition over the years by a dedicated local volunteer and some help from our office has been turned off. All of the equipment is safely sheltered in place and not in danger of being moved as does not sit on Borough land. It is my hope that people in the local community can find a way to get the service turned back on. ARCS is more than just television service, it is an important piece of the emergency information infrastructure. Meanwhile, a few miles down the road at Seward, the modulator failed, was replaced, and within a few days service was restored. Oddly, that same Moose Pass resident who has taken such good care of their system works in Seward and cares for that site as well.

Alaska Public Broadcasting Digital Distribution Network

Project Summary: project objective is interconnection of public broadcasting system facilities by means of the internet or constructed intranet. Upon completion of the network, delivery of content - programming, data and voice - and access to advanced networking options will be available to the system, enhancing service to local, regional and statewide audiences. The project is based on a network design developed under a previous federal grant from the US Department of Commerce. The project began in March 2004 and milestones include:

Review of network design and work scope: a thorough review of the original design and work scope was completed to determine if the selected equipment was still the best choice.

University of Alaska partnership agreement: entered into a multi year agreement with the UA statewide office of information technology for provision of connectivity between the hubs via the

UA data backbone; and operational oversight of the network on a twenty-four hour basis. This oversight provides rapid reporting of problems so system maintenance and repair can be provided with minimal down time for network users.

Equipment bids, purchase and deployment: the core equipment for the hub and control locations was installed in August, 2005. Since then, data network equipment for 26 stations has been installed. Competitive bidding has yielded average discount of 31% saving $465,000.

The overall project is on schedule and within budget. There continues to be local technical issues to resolve but we have made good progress and we have not encountered any serious unanticipated problems or set backs requiring significant changes to the work scope.

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All sites have been installed and efforts are focused on operations and maintenance. Current activity is occasional technical assistance being provided to personnel at various sites.